

US 20020056706	20020516	Method for controlling wire balls in electronic bonding	219/56.22	Trejo, Luis
US 6337453 B1	20020108	Method and apparatus for arc-forming a bonding wire ball with attenuated electro-magnetic interference	219/56.21	Miller, Charles F. et al.
US 6180891 B1	20010130	Control of size and heat affected zone for fine pitch wire bonding	174/260	Murdeswar, Nikhil M.
US 6001724 A	19991214	Method for forming bumps on a semiconductor die using applied voltage pulses to an aluminum wire	438/617	Stansbury, Darryl M.
US 5212361 A	19930518	Method and apparatus for forming balls at the ends of wires	219/56.22	Miyazaki, Naoki et al.
US 4523071 A	19850611	Method and apparatus for forming a ball at the end of a wire	219/56.22	Bancroft, Charles F. et al.
US 4482794 A	19841113	Pulse-width control of bonding ball formation	219/56.22	Kurtz, John A. et al.
US 4476366 A	19841009	Controlled bonding wire ball formation	219/56.22	Kurtz, John A. et al.
US 4434347 A	19840228	Lead frame wire bonding by preheating	219/56.22	Kurtz, John A. et al.
US 4390771 A	19830628	Bonding wire ball forming method and apparatus	219/56.22	Kurtz, John A. et al.
US 4266710 A	19810512	Wire bonding apparatus	228/4.5	Bilane, Glenn B. et al.
US 4171477 A	19791016	Micro-surface welding	219/56.21	Funari, Joseph
US 3602684 A	19710831	CONSTANT-TEMPERATURE-PULSED THERMOCOMPRESSION BALL BONDER SYSTEM	219/110	Friess, Richard G.
US 3767101 A	19731023	PULSE VIBRATOR FOR THERMOCOMPRESSION BONDING	228/1.1	Genrich, William D.
US 3950631 A	19760413	Device for welding a wire by means of thermo-compression bonding	219/107	Schmidt, Jean et al.
US 20020028524	20020307	Method of controlling bond process quality by measuring wire bond features	438/14	Koduri, Sreenivasan K.
US 6062462 A	20000516	Apparatus and method for making predetermined fine wire ball sizes	228/180.5	Gillotti, Gary Steven et al.
US 5773780 A	19980630	Method of severing bond wires and forming balls at their ends	219/56.22	Eldridge, Benjamin N. et al.
US 5601740 A	19970211	Method and apparatus for wirebonding, for severing bond wires, and for forming balls on the ends of b	219/130.4	Eldridge, Benjamin N. et al.
US 5628922 A	19970513	Electrical flame-off wand	219/56.21	Chen, Jeng-Cheng A.
US 4909427 A	19900320	Bonding wire ball formation	228/4.5	Plaisted, Alan H. et al.
US 4707579 A	19871117	Real-time tail length monitor for wire bonding flame-off apparatus	219/56.22	McKiel, Jr., Frank A.
US 4687897 A	19870818	Flame-off limited circuit for wire bonding ball forming apparatus	219/56.21	McKiel, Jr., Frank A.
US 4889274 A	19891226	Gas mixture for use in control and formation of ball bonds	228/180.5	Ramsey, Thomas H.
US 4476365 A	19841009	Cover gas control of bonding ball formation	219/56.22	Kurtz, John A. et al.
US 4498638 A	19850212	Apparatus for maintaining reserve bonding wire	242/417.1	Kurtz, John A. et al.
US 6215195 B1	20010410	Wire bonding with capillary realignment	257/784	Koduri, Sreenivasan
US 5095187 A	19920310	Weakening wire supplied through a wire bonder	219/68	Gliga, Alexandru S.
US 5616258 A	19970401	Process and apparatus for micro-arc welding	219/56.22	Dreizin, Edward L. et al.

L Number	Hits	Search Text	DB	Time stamp
1	528	219/56.21,130.51.ccls.	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/20 09:40
2	405	219/56.21,130.51.ccls. and (current or voltage)	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/20 09:41
3	74	(219/56.21,130.51.ccls. and (current or voltage)) and bond\$3	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/20 09:41
-	1	(electronic adj1 bonding).ti. and (trejo).in.	US-PGPUB	2003/02/20 17:06
-	1	(electronic adj1 bonding).ti. and (trejo).in.	USPAT; US-PGPUB	2003/03/19 10:27
-	1	(electronic adj1 bonding).ti. and (trejo).in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 10:28
-	21	wir\$3 adj1 ball and (current or voltage) adj1 pulse and bond\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 14:14
-	2	"60230396"	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 10:33
-	1	6062462.pn.	USPAT; US-PGPUB	2003/03/19 10:35
-	1	5773780.pn.	USPAT; US-PGPUB	2003/03/19 10:35
-	1	5601704.pn.	USPAT; US-PGPUB	2003/03/19 10:36
-	1	5601740.pn.	USPAT; US-PGPUB	2003/03/19 10:37
-	1	5628922.pn.	USPAT; US-PGPUB	2003/03/19 10:37
-	1	4909427.pn.	USPAT; US-PGPUB	2003/03/19 10:38
-	1	4707579.pn.	USPAT; US-PGPUB	2003/03/19 10:38
-	1	4687897.pn.	USPAT; US-PGPUB	2003/03/19 10:39
-	1	4523071.pn.	USPAT; US-PGPUB	2003/03/19 10:39
-	1	4889274.pn.	USPAT; US-PGPUB	2003/03/19 10:40
-	1	4482794.pn.	USPAT; US-PGPUB	2003/03/19 10:40
-	1	4746366.pn.	USPAT; US-PGPUB	2003/03/19 10:42
-	1	4476366.pn.	USPAT; US-PGPUB	2003/03/19 10:42
-	1	4476365.pn.	USPAT; US-PGPUB	2003/03/19 10:42
-	1	4390711.pn.	USPAT; US-PGPUB	2003/03/19 10:43
-	5	(bonding adj1 wire).ti. and (kurtz).in.	USPAT; US-PGPUB	2003/03/19 10:44
-	89	wir\$3 with ball and (current or voltage) with pulse and (height or amplitude) and (width or duration or interval) and bond\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 14:46

-	5	3950631.URPN.	USPAT	2003/03/19 14:29
-	4	3767101.URPN.	USPAT	2003/03/19 14:39
-	1	3602684.URPN.	USPAT	2003/03/19 14:44
-	83	(wir\$3 with ball and (current or voltage) with pulse and (height or amplitude) and (width or duration or interval) and bond\$3) and var\$5	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 14:48
-	71	((wir\$3 with ball and (current or voltage) with pulse and (height or amplitude) and (width or duration or interval) and bond\$3) and var\$5) and (gold or copper)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 14:53
-	19	((wir\$3 with ball and (current or voltage) with pulse and (height or amplitude) and (width or duration or interval) and bond\$3) and var\$5) and (gold or copper)) and flame	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:00
-	267	current adj1 pulse and pulse near2 width and pulse near2 height	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:02
-	13	(current adj1 pulse and pulse near2 width and pulse near2 height) and wir\$3 and bond\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:01
-	1	((current adj1 pulse and pulse near2 width and pulse near2 height) and wir\$3 and bond\$3) and ball	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:01
-	1	current adj1 pulse and pulse with width and pulse with height and ball and wir\$3 and bond\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:03
-	45	current adj1 pulse and pulse with (width or narrow or duration) and pulse with (height or amplitude) and ball and wir\$3 and bond\$3	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:56
-	4	("3214563" "4829153" "5006688" "5095187").PN.	USPAT	2003/03/19 15:28
-	3	4523071.URPN.	USPAT	2003/03/19 15:52
-	140	current and pulse with (width or narrow or duration) and pulse with (height or amplitude) and ball and wir\$3 and bond\$3	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:57
-	137	(current and pulse with (width or narrow or duration) and pulse with (height or amplitude) and ball and wir\$3 and bond\$3) and form\$3	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 15:58
-	55	((current and pulse with (width or narrow or duration) and pulse with (height or amplitude) and ball and wir\$3 and bond\$3) and form\$3) and train	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 19:11
-	40	4434347.URPN.	USPAT	2003/03/19 16:10
-	201	29/\$.ccls. and wir\$3 and bond\$3 and (current or voltage) with pulse	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 19:15

-	37	(29/\$.ccls. and wir\$3 and bond\$3 and (current or voltage) with pulse) and ball	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 19:12
-	37	228/\$.ccls. and wir\$3 and bond\$3 and (current or voltage) with pulse and ball	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 19:24
-	59	219/\$.ccls. and wir\$3 and bond\$3 and (current or voltage) with pulse and ball	USPAT; EPO; JPO; DERWENT; IBM_TDB	2003/03/19 19:24